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|--|-------|------|--------|--|--|--|--|--|--|--|--|--|--|
| NEWS   | 1     |      |        | Web Page for STN Seminar Schedule - N. America                                       |  |  |  |  |  |  |  |  |  |
| NEWS   |       | AUG  | 15     | CAOLD to be discontinued on December 31, 2008  |  |  |  |  |  |  |  |  |  |
| NEWS   |       | OCT  |        | EPFULL enhanced with full implementation of EPC2000                                  |  |  |  |  |  |  |  |  |  |
| NEWS   |       | OCT  |        | ltiple databases enhanced for more flexible patent                                   |  |  |  |  |  |  |  |  |  |
| NEND   | -     | 001  | 0,     | umber searching  |  |  |  |  |  |  |  |  |  |
| NEWS   | 5     | OCT  | 22     | Current-awareness alert (SDI) setup and editing                                      |  |  |  |  |  |  |  |  |  |
|  |       |      |        | enhanced   |  |  |  |  |  |  |  |  |  |
| NEWS   | 6     | OCT  | 22     | WPIDS, WPINDEX, and WPIX enhanced with Canadian PCT                                  |  |  |  |  |  |  |  |  |  |
|  |       |      |        | Applications   |  |  |  |  |  |  |  |  |  |
| NEWS   | 7     | OCT  | 24     | CHEMLIST enhanced with intermediate list of  |  |  |  |  |  |  |  |  |  |
| NEWS   | 0     | NOV  | 21     | pre-registered REACH substances CAS patent coverage to include exemplified prophetic |  |  |  |  |  |  |  |  |  |
| MEMO   | 0     | INOV | 21     | substances identified in English-, French-, German-,                                 |  |  |  |  |  |  |  |  |  |
|  |       |      |        | and Japanese-language basic patents from 2004-present                                |  |  |  |  |  |  |  |  |  |
| NEWS   | G     | NOV  | 26     | MARPAT enhanced with FSORT command   |  |  |  |  |  |  |  |  |  |
| NEWS   |       | NOV  |        | MEDLINE year-end processing temporarily halts  |  |  |  |  |  |  |  |  |  |
| 112110   |       |      |        | availability of new fully-indexed citations  |  |  |  |  |  |  |  |  |  |
| NEWS   | 11    | NOV  | 26     | CHEMSAFE now available on STN Easy   |  |  |  |  |  |  |  |  |  |
| NEWS   | 12    | NOV  |        | Two new SET commands increase convenience of STN                                     |  |  |  |  |  |  |  |  |  |
|  |       |      |        | searching  |  |  |  |  |  |  |  |  |  |
| NEWS   | 13    | DEC  | 01     | ChemPort single article sales feature unavailable                                    |  |  |  |  |  |  |  |  |  |
| NEW  | -11.D |      | ****** | 27 08 CURRENT WINDOWS VERSION IS V8.3,   |  |  |  |  |  |  |  |  |  |
| NEWS   | EXP   | KE55 |        | CURRENT DISCOVER FILE IS DATED 23 JUNE 2008.   |  |  |  |  |  |  |  |  |  |
|  |       |      | AND    | CORRENT DISCOVER FILE IS DATED 23 JUNE 2008.   |  |  |  |  |  |  |  |  |  |
| NEWS   | HOU   | RS   | STI    | V Operating Hours Plus Help Desk Availability  |  |  |  |  |  |  |  |  |  |
| NEWS   |       |      |        | lcome Banner and News Items  |  |  |  |  |  |  |  |  |  |
| NEWS   |       |      |        | general information regarding STN implementation of IPC 8                            |  |  |  |  |  |  |  |  |  |
|  |       |      |        |  |  |  |  |  |  |  |  |  |  |
| Enter NEWS followed by the item number or name to see news on that |       |      |        |  |  |  |  |  |  |  |  |  |  |
| specific topic.  |       |      |        |  |  |  |  |  |  |  |  |  |  |
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chain nodes:
13 14 15 16 17 18
ring nodes:
1 2 3 4 5 6 7 8 9 10 11 12
chain bonds:
5-16 6-13 7-18 10-13 13-15 13-14 16-17
ring bonds:
1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12
exact/norm bonds:
13-15 13-14
exact bonds:
5-16 6-13 7-18 10-13 16-17
normalized bonds:
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## $1-2 \quad 1-6 \quad 2-3 \quad 3-4 \quad 4-5 \quad 5-6 \quad 7-8 \quad 7-12 \quad 8-9 \quad 9-10 \quad 10-11 \quad 11-12$

## Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom 11:Atom 12:Atom 13:CLASS 14:CLASS 15:CLASS 16:CLASS 17:CLASS 18:CLASS

## L1 STRUCTURE UPLOADED

=> d 11

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72 ANSWERS

=> s l1 sss full

FULL SEARCH INITIATED 17:18:19 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 9547 TO ITERATE

100.0% PROCESSED 9547 ITERATIONS SEARCH TIME: 00.00.01

L2 72 SEA SSS FUL L1

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FULL ESTIMATED COST 178.82 179.03

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FILE COVERS 1907 - 2 Dec 2008 VOL 149 ISS 23 FILE LAST UPDATED: 1 Dec 2008 (20081201/ED)

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=> s 11 and ("cyclic anhydride" or imide)
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3 ANSWERS

FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*
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PROJECTED ITERATIONS: 9331 TO 12109
PROJECTED ANSWERS: 3 TO 163

L3 3 SEA SSS SAM L1

L4 9 L3

L5 0 L4 AND ("CYCLIC ANHYDRIDE" OR IMIDE)

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SINCE FILE TOTAL ENTRY SESSION 7.32 192.09

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=> s 12 and ("cyclic anhydride" or imide)
69 L2
346312 "CYCLIC"
358 "CYCLICS"
346453 "CYCLIC"
("CYCLIC" OR "CYCLICS")
236963 "ANHYDRIDE"
35167 "ANHYDRIDE"
248380 "ANHYDRIDE"
("ANHYDRIDE"
("ANHYDRIDE" OR "ANHYDRIDES")

2333 "CYCLIC ANHYDRIDE"
("CYCLIC"(W)"ANHYDRIDE")
25205 IMIDE

10909 IMIDES 30875 IMIDE

(IMIDE OR IMIDES)

1 L2 AND ("CYCLIC ANHYDRIDE" OR IMIDE)

=> d 16 abs ibib hitstr

L6 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2008 ACS on STN

01

- \* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY AVAILABLE VIA OFFLINE PRINT \*
- to CN, R3 = halo; X = double or single bond; Y = bond, O, S, or NH; W = O, or S; R4 = alkyl, alkenyl, alkynyl, aryl, hetroaryl, all of which may be optionally substituted with alkoxy, alkythio, halo, OH, NH, NO2, CN, alkylamino, aryl, aryloxy, arylthio, and heteroaryl, or a salt from a mixture of I [R1 = group II] and I [R1 = H], which was reacting with cyclic anhydride or imide to form a mixture of I [R1 = group II] and an esters III (R5 = substituted heteroaryl carboxylic acid), were prepared by enzymic acylation or deacylation, separated, isolated and purified and used for manufacturing of escitalopram and derivs. Compds. I [R1 = group II] were separated from esters III by precipitation of III from

Compds. I [R1 = H, or group II; R2 = CN, or a group which may be converted

the mixture, or by partitioning between an organic solvent and aqueous solvent, by

adsorbing I
[R1 = group II] on a basic resin. Thus, addition of succinic anhydride to a
mixture of butyric acid 5-cyano-2-[4-dimethylamino-1-(4-fluorophenyl)-1hydroxybutyl]-benzyl ester and prepared by enzymic resolution
4-[(8)-4-dimethylamino-1-(4'-fluorophenyl)-1-hydroxybutyl]-3-

hydroxymethylbenzonitrile, gave after precipitation and washing 2,02 g of escitalopram [(S)-1-(3-dimethylamino-propyl)-1-(4-fluoro-phenyl)-1,3-dihydro-isobenzofuran-5-carbonitrile] hydrogen oxalate (ee = 95%).

ACCESSION NUMBER: 2005:902848 CAPLUS

DOCUMENT NUMBER: 143:248161

TITLE: Method for the separation of intermediates which may be used for the preparation of escitalopram

INVENTOR(S): Lyngso, Lars Ole

PATENT ASSIGNEE(S): H. Lundbeck A/S, Den. SOURCE: PCT Int. Appl., 41 pp. CODEN: PIXXD2

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1 PATENT INFORMATION:

AB

| PAT | PATENT NO.     |     |     |     | KIND DATE                  |      |                         | APPLICATION NO. |                 |          |          |          | DATE     |          |      |      |     |
|-----|----------------|-----|-----|-----|----------------------------|------|-------------------------|-----------------|-----------------|----------|----------|----------|----------|----------|------|------|-----|
|     |                |     |     |     |                            |      |                         |                 |                 |          |          |          |          |          |      |      |     |
| WO  | WO 2005077891  |     |     |     | A1 20050825                |      |                         | WO 2005-DK75    |                 |          |          | 20050202 |          |          |      |      |     |
|     | W:             | ΑE, | AG, | AL, | AM,                        | ΑT,  | AU,                     | AZ,             | BA,             | BB,      | BG,      | BR,      | BW,      | BY,      | BZ,  | CA,  | CH, |
|     |                | CN, | co, | CR, | CU,                        | CZ,  | DE,                     | DK,             | DM,             | DZ,      | EC,      | EE,      | EG,      | ES,      | FI,  | GB,  | GD, |
|     |                | GE, | GH, | GM, | HR,                        | HU,  | ID,                     | IL,             | IN,             | IS,      | JP,      | KE,      | KG,      | KP,      | KR,  | KZ,  | LC, |
|     |                | LK, | LR, | LS, | LT,                        | LU,  | LV,                     | MA,             | MD,             | MG,      | MK,      | MN,      | MW,      | MX,      | MZ,  | NA,  | NI, |
|     |                | NO. | NZ. | OM. | PG.                        | PH.  | PL,                     | PT.             | RO,             | RU.      | SC.      | SD,      | SE,      | SG.      | SK.  | SL,  | SY, |
|     |                | TJ, | TM, | TN, | TR,                        | TT,  | TZ,                     | UA,             | UG,             | US,      | UZ,      | VC,      | VN,      | YU,      | ZA,  | ZM,  | ZW  |
|     | RW:            | BW, | GH, | GM, | KE,                        | LS,  | MW.                     | MZ,             | NA,             | SD,      | SL,      | SZ,      | TZ,      | UG,      | ZM,  | ZW,  | AM, |
|     |                | AZ, | BY, | KG, | KZ,                        | MD,  | RU,                     | TJ,             | TM,             | AT,      | BE,      | BG,      | CH,      | CY,      | CZ,  | DE,  | DK, |
|     |                | EE, | ES, | FI, | FR,                        | GB,  | GR,                     | HU,             | IE,             | IS,      | IT,      | LT,      | LU,      | MC,      | NL,  | PL,  | PT, |
|     |                | RO, | SE, | SI, | SK,                        | TR,  | BF,                     | BJ,             | CF,             | CG,      | CI,      | CM,      | GA,      | GN,      | GO,  | GW,  | ML, |
|     |                | MR, | NE, | SN, | TD,                        | TG   |                         |                 |                 |          |          |          |          |          |      |      |     |
| AU  | AU 2005212455  |     |     | A1  |                            | 2005 | 0825                    | AU 2005-212455  |                 |          |          |          |          | 2        | 0050 | 202  |     |
| CA  | CA 2555980     |     |     | A1  | A1 20050825                |      |                         |                 | CA 2005-2555980 |          |          |          |          | 20050202 |      |      |     |
| EP  | EP 1716108     |     |     | A1  | A1 20061102 EP 2005-700625 |      |                         |                 |                 | 20050202 |          |          |          |          |      |      |     |
| EP  | 1716           | 108 |     |     | В1                         |      | 2008                    | 1015            |                 |          |          |          |          |          |      |      |     |
|     | R:             | AT, | BE, | CH, | DE,                        | DK,  | ES,                     | FR,             | GB,             | GR,      | IT,      | LI,      | LU,      | NL,      | SE,  | MC,  | PT, |
|     |                | IE, | SI, | LT, | LV,                        | FI,  | RO,                     | MK,             | CY,             | AL,      | TR,      | BG,      | CZ,      | EE,      | HU,  | PL,  | SK, |
|     |                | BA, | HR, | IS, | YU                         |      |                         |                 |                 |          |          |          |          |          |      |      |     |
| CN  | 1918           | 112 |     |     | A                          |      | 2007                    | 0221            |                 | CN 2     | 005-     | 8000     | 4594     |          | 2    | 0050 | 202 |
| BR  | BR 2005007580  |     |     | A   | 20070731                   |      |                         | BR 2005-7580    |                 |          |          |          | 20050202 |          |      |      |     |
| JP  | JP 2007524678  |     |     | T   | 20070830                   |      |                         | JP 2006-552461  |                 |          |          |          | 20050202 |          |      |      |     |
|     | AT 411278      |     |     |     | T                          |      | 20081015 AT 2005-700625 |                 |                 |          |          |          | 20050202 |          |      |      |     |
| MX  | MX 2006PA08977 |     |     |     | A                          |      | 20061020 MX 2006-PA8977 |                 |                 |          | 20060808 |          |          |          |      |      |     |

| IN 2006CN02945         | A  | 20070608 |    | 2006-CN2945  |   | 20060810 |
|------------------------|----|----------|----|--------------|---|----------|
| NO 2006004086          | A  | 20060912 | NO | 2006-4086    |   | 20060912 |
| US 20070190624         | A1 | 20070816 | US | 2006-597836  |   | 20061108 |
| PRIORITY APPLN. INFO.: |    |          | DK | 2004-217     | A | 20040212 |
|                        |    |          | US | 2004-544970P | P | 20040212 |
|                        |    |          | WO | 2005-DK75    | W | 20050202 |

OTHER SOURCE(S): CASREACT 143:248161; MARPAT 143:248161 488787-59-3P

RL: BPN (Biosynthetic preparation); RCT (Reactant); SPN (Synthetic

preparation); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent)

(preparation by enzymic acylation or deacylation, separation, isolation and purification by precipitation, partitioning, or adsorption, of benzonitriles used as

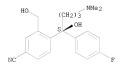
RN

intermediates for synthesis of escitalopram and derivs.) 488787-59-3 CAPLUS

CM

Benzonitrile, 4-[(1S)-4-(dimethylamino)-1-(4-fluorophenyl)-1-hydroxybutyl]-3-(hydroxymethyl)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



103146-25-4

RL: RCT (Reactant); RACT (Reactant or reagent)

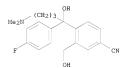
(preparation by enzymic acylation or deacylation, separation, isolation and purification by precipitation, partitioning, or adsorption, of

benzonitriles used as

intermediates for synthesis of escitalopram and derivs.)

RN 103146-25-4 CAPLUS

CN Benzonitrile, 4-[4-(dimethylamino)-1-(4-fluorophenyl)-1-hydroxybutyl]-3-(hydroxymethyl) - (CA INDEX NAME)



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